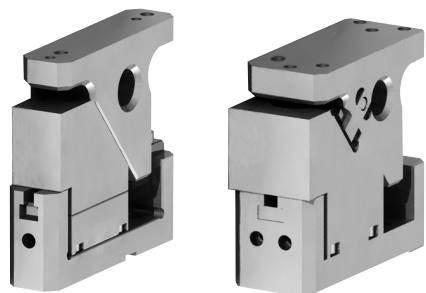


# Die Mounted Cam Unit CMSD

FOR PIERCING



- Mounting Widths 52mm and 90mm
- Ease of assembly with exposed cam slider
- Working angles:
  - 0° to 20° for mounting surface width 52mm
  - 0° to 15° for mounting surface width 90mm
- Travel 55mm

## ■ CMSD Specifications

Mounting Surface		Working Angle	Travel	Working Force kN(tonf)		Spring Force N(kgf)
W	H			1,000,000 strokes	300,000 strokes	
52	75	00	55	19.6 (2.0)	39.2 (4.0)	606.7 (62.1)
		05				
		10				
		15				
90	82	00	55	38.2 (3.9)	76.4 (7.8)	1213.4 (124.2)
		05				
		10				
		15				

## ■ Option

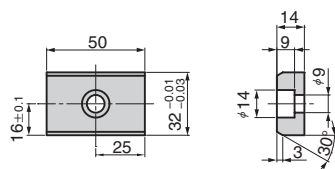
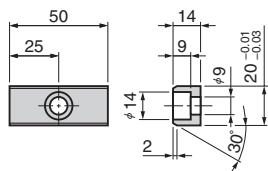
### ● Key Specification(-K)

#### CMSD52

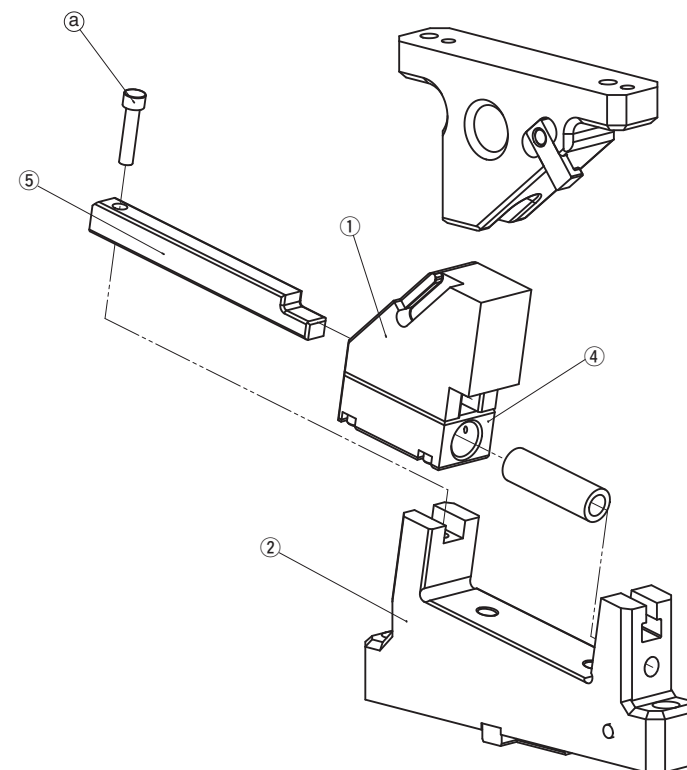
LKU20-50(With 2 pcs of M8 x15 bolt)

#### CMSD90

LKU32-50(With 2 pcs of M8 x15 bolt)



## ■ CMSD Assembly / Dis-assembly



### ● Disassembling CMSD

- 1) Remove Hexagon Socket Head Bolt (a), pull out Guide Bar (5) from Cam Holder (2) to the rear for 30mm, and then remove Guide Bar and Cam Slider.
- 2) Pull up Guide Bar to remove from Cam Slider.(5①④).

### ● Re-assembly

Reassembly is the reverse procedure of disassembly.

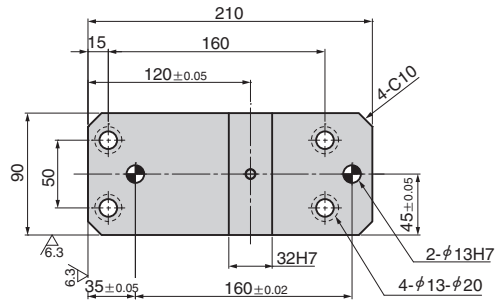
- NOTE
- Ensure that all parts are clean, particularly the sliding components, to which a small amount of grease is applied and is then placed on position.
  - Take care the respective tolerances are observed when assembling the slider and holder, which also should be identified by the same serial number.
  - Ensure that all bolts are tightened to the recommended torque.

# Die Mounted Cam Unit

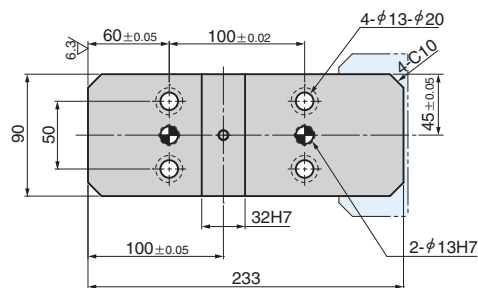
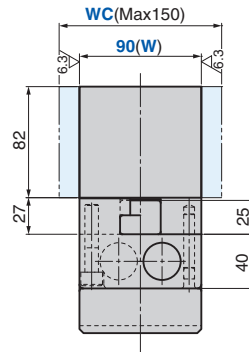
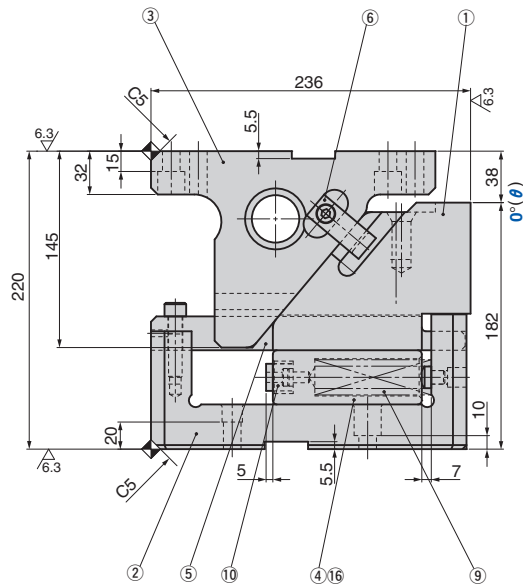
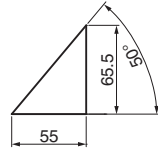
FOR PIERCE

CAD FILE

CMSD90 - 00 - 55



Cam Diagram



Working Force kN(tonf)		Spring Force N(kgf)		Total Weight kg	Catalog No.	W	θ	Travel S
Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
38.2 (3.9)	76.4 (7.8)	170.6 (17.5)	1213.4 (124.2)	24.9	CMSD	90	00	55



Order

Catalog No.	W	θ	S
CMSD	90	00	55

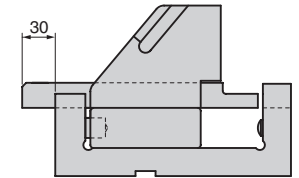


Option

Option Code	Specification
K	Key attached.
WC	The mounting surface width (W) is changed within the range 91 mm - 150 mm (1 mm increments).
N12	Dowel pin holes of cam holder and cam driver are changed to φ12H7.

For detailed specification of the key, refer to page 1041.

Space for removing



Position of piercing center to be set within cam width.



Order

CMSD90 - 00 - 55 - WC120  
CMSD90 - 00 - 55 - K



Refer to

page 389 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

Table of Components

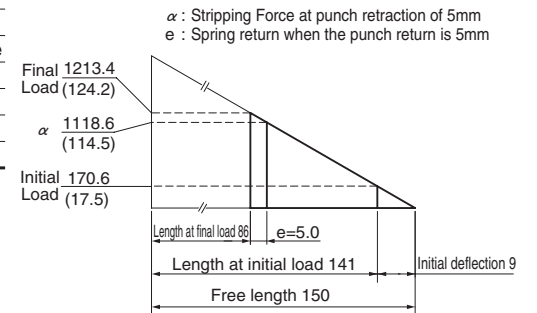
No.	Description	Qty	Material and Remark
①	Cam Slider(Upper)	1	FC250
②	Cam Holder	1	FC250
③	Cam Driver	1	FC250 with Graphite
④	Cam Slider(Lower)	1	FC250 with Graphite
⑤	Guide Bar	1	SCM440 with Graphite
⑥	Positive Return Follower	2	S45C(1045)
⑨	Coil Spring	2	SWS26-150
⑩	Stopper	2	Urethane
⑯	Spring Plug	2	SAE1065 NH8

Bolts for assembly are not indicated.

Spring Diagram

(Stripping Force at punch retraction of 5mm)

- Spring used SWS26-150 (2 piece)
- Spring constant 9.48N/mm(0.97kgf/mm)
- Guideline of spring durability 500,000 strokes

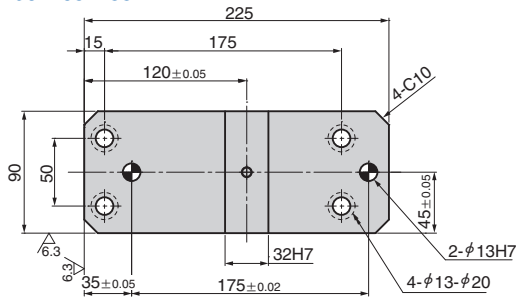


# Die Mounted Cam Unit

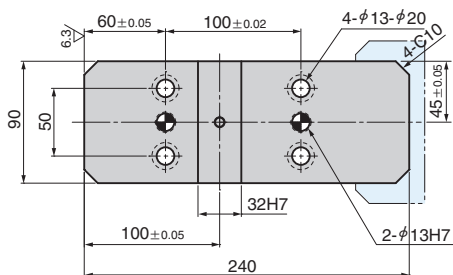
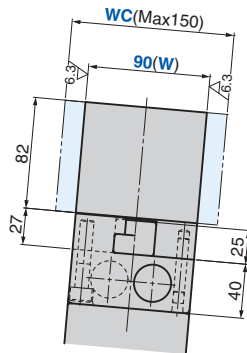
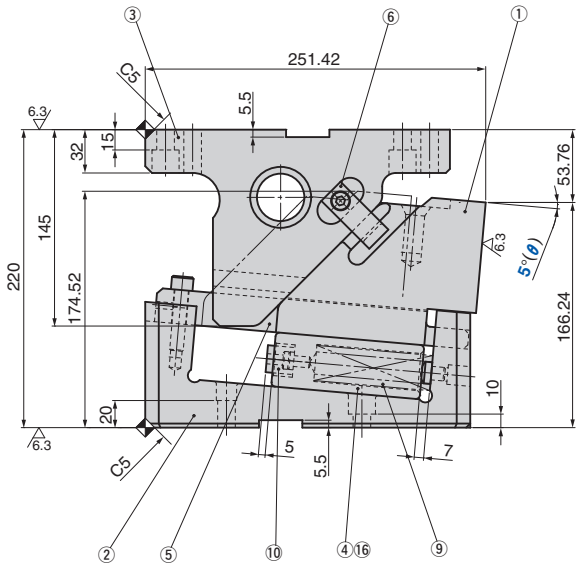
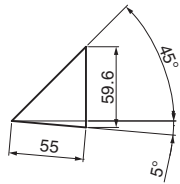
FOR PIERCE

CAD  
FILE

CMSD90 - 05 - 55



Cam Diagram



Working Force kN(tonf)		Spring Force N(kgf)		Total Weight kg	Catalog No.	W	θ	Travel S
Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
38.2 (3.9)	76.4 (7.8)	170.6 (17.5)	1213.4 (124.2)	25.9	CMSD	90	05	55



Order

Catalog No.	W	θ	S
CMSD	90	05	55

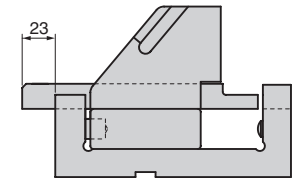


Option

Option Code	Specification
K	Key attached.
WC	The mounting surface width (W) is changed within the range 91 mm - 150 mm (1 mm increments).
N12	Dowel pin holes of cam holder and cam driver are changed to φ12H7.

For detailed specification of the key, refer to page 1041.

Space for removing



Position of piercing center to be set within cam width.



Order

CMSD90 - 05 - 55 - WC120  
CMSD90 - 05 - 55 - K



Option

Refer to page 389 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

Table of Components

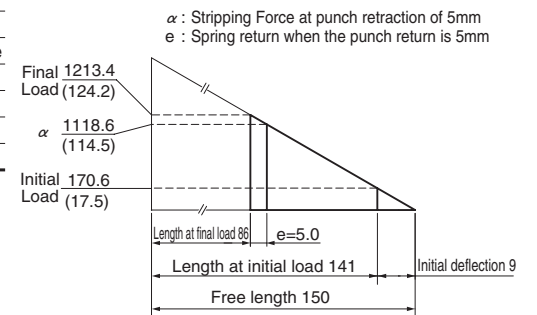
No.	Description	Qty	Material and Remark
①	Cam Slider(Upper)	1	FC250
②	Cam Holder	1	FC250
③	Cam Driver	1	FC250 with Graphite
④	Cam Slider(Lower)	1	FC250 with Graphite
⑤	Guide Bar	1	SCM440 with Graphite
⑥	Positive Return Follower	2	S45C(1045)
⑨	Coil Spring	2	SWS26-150
⑩	Stopper	2	Urethane
⑯	Spring Plug	2	SAE1065 NH8

Bolts for assembly are not indicated.

Spring Diagram

(Stripping Force at punch retraction of 5mm)

- Spring used SWS26-150 (2 piece)
- Spring constant 9.48N/mm(0.97kgf/mm)
- Guideline of spring durability 500,000 strokes

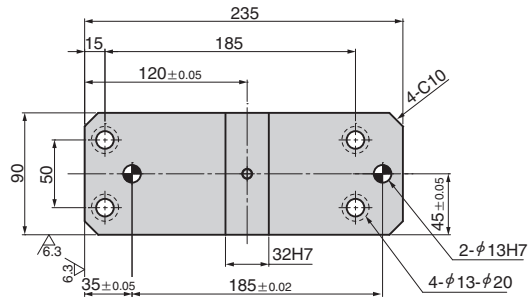


# Die Mounted Cam Unit

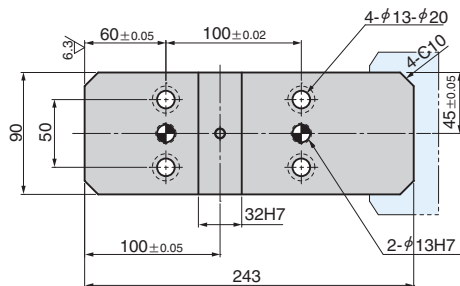
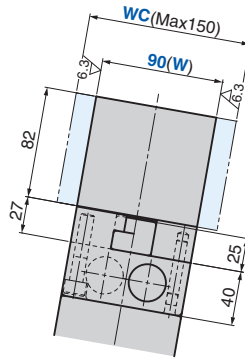
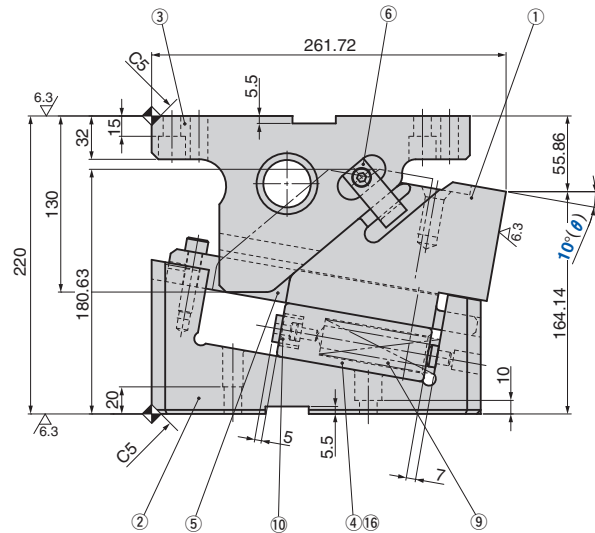
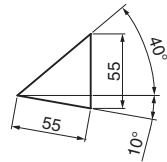
FOR PIERCE

CAD  
FILE

CMSD90 - 10 - 55



### Cam Diagram



Working Force kN(tonf)		Spring Force N(kgf)		Total Weight kg	Catalog No.	W	θ	Travel S
Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
38.2 (3.9)	76.4 (7.8)	170.6 (17.5)	1213.4 (124.2)	27.3	CMSD	90	10	55



Order

Catalog No.	W	θ	S
CMSD	90	10	55

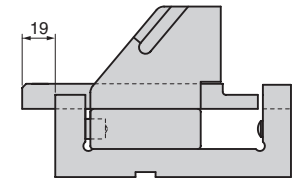


Option

Option Code	Specification
K	Key attached.
WC	The mounting surface width (W) is changed within the range 91 mm - 150 mm (1 mm increments).
N12	Dowel pin holes of cam holder and cam driver are changed to φ12H7.

For detailed specification of the key, refer to page 1041.

### Space for removing



Position of piercing center to be set within cam width.



Order CMSD90 - 10 - 55 - WC120  
CMSD90 - 10 - 55 - K

Refer to page 389 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

### Table of Components

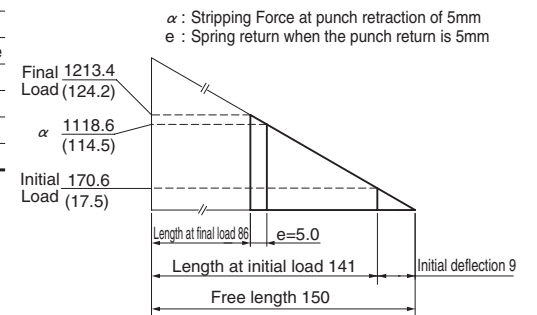
No.	Description	Qty	Material and Remark
①	Cam Slider(Upper)	1	FC250
②	Cam Holder	1	FC250
③	Cam Driver	1	FC250 with Graphite
④	Cam Slider(Lower)	1	FC250 with Graphite
⑤	Guide Bar	1	SCM440 with Graphite
⑥	Positive Return Follower	2	S45C(1045)
⑨	Coil Spring	2	SWS26-150
⑩	Stopper	2	Urethane
⑯	Spring Plug	2	SAE1065 NH8

Bolts for assembly are not indicated.

### Spring Diagram

(Stripping Force at punch retraction of 5mm)

- Spring used SWS26-150 (2 piece)
- Spring constant 9.48N/mm(0.97kgf/mm)
- Guideline of spring durability 500,000 strokes

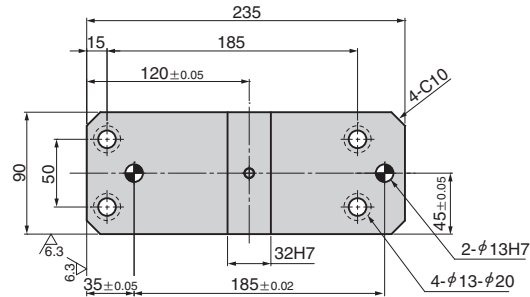


# Die Mounted Cam Unit

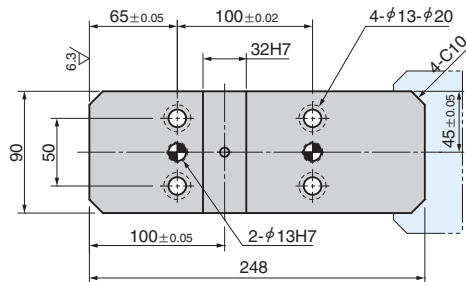
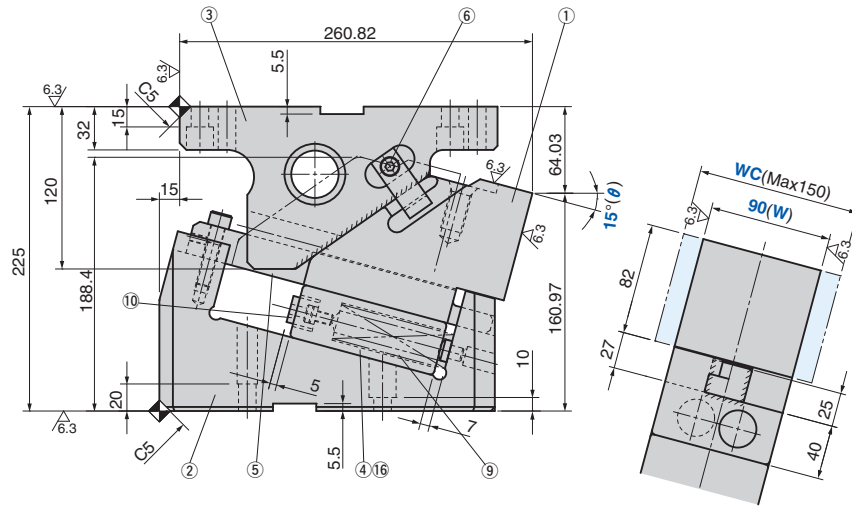
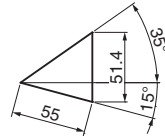
FOR PIERCE

CAD  
FILE

CMSD90 - 15 - 55



Cam Diagram



Working Force kN(tonf)		Spring Force N(kgf)		Total Weight kg	Catalog No.	W	θ	Travel S
Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load					
38.2 (3.9)	76.4 (7.8)	170.6 (17.5)	1213.4 (124.2)	29.3	CMSD	90	15	55



Order

Catalog No.	W	θ	S
CMSD	90	15	55

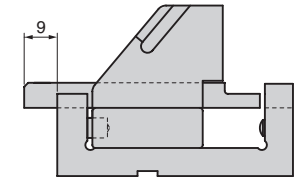


Option

Option Code	Specification
K	Key attached.
WC	The mounting surface width (W) is changed within the range 91 mm - 150 mm (1 mm increments).
N12	Dowel pin holes of cam holder and cam driver are changed to φ12H7.

For detailed specification of the key, refer to page 1041.

Space for removing



Position of piercing center to be set within cam width.



Order

CMSD90 - 15 - 55 - WC120  
CMSD90 - 15 - 55 - K

Refer to page 389 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider(Upper)	1	FC250
②	Cam Holder	1	FC250
③	Cam Driver	1	FC250 with Graphite
④	Cam Slider(Lower)	1	FC250 with Graphite
⑤	Guide Bar	1	SCM440 with Graphite
⑥	Positive Return Follower	2	S45C(1045)
⑨	Coil Spring	2	SWS26-150
⑩	Stopper	2	Urethane
⑯	Spring Plug	2	SAE1065 NH8

Bolts for assembly are not indicated.

Spring Diagram

(Stripping Force at punch retraction of 5mm)

- Spring used SWS26-150 (2 piece)
- Spring constant 9.48N/mm(0.97kgf/mm)
- Guideline of spring durability 500,000 strokes

